

SEQUENCE LISTING

<110> Mitchell, William M.
Stratton, Charles W.

<120> IDENTIFICATION OF ANTIGENIC PEPTIDE
SEQUENCES

<130> VDB98-01

<140> 09/025,596

<141> 1998-02-18

<150> 08/911,593

<151> 1997-08-14

<150> 60/023,921

<151> 1996-08-14

<160> 118

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 14

<212> PRT

<213> Chlamydia pneumoniae

<400> 1

Lys Pro Lys Glu Ser Lys Thr Asp Ser Val Glu Arg Trp Ser
1 5 10

<210> 2

<211> 11

<212> PRT

<213> Chlamydia pneumoniae

<400> 2

Ser Ser Asn Ser Ser Ser Ser Thr Ser Arg Ser
1 5 10

<210> 3

<211> 8

<212> PRT

<213> Chlamydia pneumoniae

<400> 3

Gly Ser Lys Gln Gln Gly Ser Ser
1 5

<210> 4

<211> 8

<212> PRT

<213> Chlamydia pneumoniae

10020259.121401

<400> 4
Gly Lys Ala Gly Gln Gln Gly
1 5

<210> 5
<211> 9
<212> PRT
<213> Chlamydia pneumoniae

<400> 5
Pro Ser Glu Thr Ser Thr Thr Glu Lys
1 5

<210> 6
<211> 8
<212> PRT
<213> Chlamydia pneumoniae

<400> 6
Lys Pro Ala Asp Gly Ser Asp Val
1 5

<210> 7
<211> 11
<212> PRT
<213> Chlamydia pneumoniae

<400> 7
Asn Gly Gln Lys Lys Pro Leu Tyr Leu Tyr Gly
1 5 10

<210> 8
<211> 19
<212> PRT
<213> Chlamydia pneumoniae

<400> 8
Ser Asp Val Pro Asn Pro Gly Thr Thr Val Gly Gly Ser Lys Gln Gln
1 5 10 15
Gly Ser Ser

<210> 9
<211> 15
<212> PRT
<213> Chlamydia pneumoniae

<400> 9
His Met Phe Asn Thr Glu Asn Pro Asp Ser Gln Ala Ala Gln Gln
1 5 10 15

<210> 10
<211> 9
<212> PRT
<213> Chlamydia pneumoniae

10020269-121404

<400> 10
 Asp Asp Ala Glu Asn Glu Thr Ala Ser
 1 5

<210> 11
 <211> 16
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 11
 Lys Glu Glu Asp Lys Lys Arg Arg Glu Ala Ser Asp Ala Lys Asn Glu
 1 5 10 15

<210> 12
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 12
 Ala Glu Glu Asp Arg Arg Lys Lys Glu Arg Val Glu Ala Val Asn Met
 1 5 10 15

<210> 13
 <211> 22
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 13
 Lys Lys His Ser Phe Ser Thr Lys Pro Pro Ser Asn Asn Gly Ser Ser
 1 5 10 15
 Glu Asp His Ile Glu Glu
 20

<210> 14
 <211> 14
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 14
 Tyr Thr Val Thr Ser Gly Ser Lys Gly Asp Ala Val Phe Glu
 1 5 10

<210> 15
 <211> 11
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 15
 Thr Ser Ser Glu Gly Thr Arg Thr Thr Pro Ser
 1 5 10

<210> 16
 <211> 8
 <212> PRT
 <213> Chlamydia pneumoniae

10020269 121401

<400> 16
 Ser Glu His Lys Lys Ser Ser Lys
 1 5

<210> 17
 <211> 14
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 17
 Lys Asp Val Ala Ser Gly Lys Glu Gln Lys Ile Arg Ile Glu
 1 5 10

<210> 18
 <211> 16
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 18
 Glu Arg Asn Thr Thr Ile Pro Thr Gln Lys Lys Gln Ile Phe Ser Thr
 1 5 10 15

<210> 19
 <211> 16
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 19
 Tyr Phe Asn Asp Ser Gln Arg Ala Ser Ser Thr Lys Asp Ala Gly Arg
 1 5 10 15

<210> 20
 <211> 15
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 20
 Glu Glu Phe Lys Lys Gln Glu Gly Ile Asp Leu Ser Lys Asp Asn
 1 5 10 15

<210> 21
 <211> 12
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 21
 Asn Ala Lys Gly Gly Pro Asn Ile Asn Thr Glu Asp
 1 5 10

<210> 22
 <211> 16
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 22

10030269-1214031

[illegible]

<400> 23

```
<210> 24
<211> 14
<212> PRT
<213> Homo sapiens
```

<400> 24

```
<210> 25
<211> 11
<212> PRT
<213> Chlamydia pneumoniae
```

<400> 25

```
<210> 26
<211> 11
<212> PRT
<213> Homo sapiens
```

<400> 26

```
<210> 27
<211> 7
<212> PRT
<213> Chlamydia pneumoniae
```

<400> 27

```
<210> 28
<211> 15
<212> PRT
<213> Chlamydia pneumoniae
```

<400> 28

6/31

Lys Lys Gln Ile Glu Asp Ser Thr Ser Asp Tyr Val Ser Glu Glu
1 5 10 15

<210> 29
<211> 12
<212> PRT
<213> Chlamydia pneumoniae

<400> 29
Ser Ser Tyr Phe Ser Thr Asn Pro Glu Thr Gln Glu
1 5 10

<210> 30
<211> 16
<212> PRT
<213> Chlamydia pneumoniae

<400> 30
Glu Lys Val Gly Lys Asn Gly Ser Ile Thr Val Glu Glu Ala Asp Lys
1 5 10 15

<210> 31
<211> 15
<212> PRT
<213> Chlamydia pneumoniae

<400> 31
Ser Lys Thr Ala Asp Lys Ala Gly Asp Gly Thr Thr Thr Ala Thr
1 5 10 15

<210> 32
<211> 10
<212> PRT
<213> Chlamydia pneumoniae

<400> 32
Lys Arg Glu Glu Glu Ala Thr Ala Arg
1 5 10

<210> 33
<211> 10
<212> PRT
<213> Mouse

<400> 33
Glu Arg Ser Ala Ala Glu Thr Val Thr Lys
1 5 10

<210> 34
<211> 11
<212> PRT
<213> Chlamydia pneumoniae

<400> 34

10020269.121401

7/31

Asp Thr Ala Lys Lys Lys Gln Asp Arg Ala Glu
1 5 10

<210> 35
<211> 11
<212> PRT
<213> Mouse

<400> 35
Glu Lys Ser Gln Gly Lys Val Leu Gln Ala Thr
1 5 10

<210> 36
<211> 10
<212> PRT
<213> Chlamydia pneumoniae

<400> 36
Gly Thr Gly Lys Arg Thr Asp Asp Gly Thr
1 5 10

<210> 37
<211> 10
<212> PRT
<213> Mouse

<400> 37
Gly Ser Gly Gly Lys Gly Lys Ser Gly Glu
1 5 10

<210> 38
<211> 25
<212> PRT
<213> Chlamydia pneumoniae

<400> 38
Arg Arg Asn Lys Gln Pro Val Glu Gln Lys Ser Arg Gly Ala Phe Cys
1 5 10 15
Asp Lys Glu Phe Tyr Pro Cys Glu Glu
20 25

<210> 39
<211> 19
<212> PRT
<213> Chlamydia pneumoniae

<400> 39
Asp Met Arg Pro Gly Asp Lys Lys Val Phe Thr Val Glu Phe Cys Pro
1 5 10 15
Gln Arg Arg

<210> 40
<211> 19
<212> PRT

10020269.121401

8/31

<213> Chlamydia pneumoniae

<400> 40

Ser Ser Asp Pro Glu Thr Thr Pro Thr Ser Asp Gly Lys Val Trp Lys
1 5 10 15
Ile Asp Arg

<210> 41

<211> 20

<212> PRT

<213> Chlamydia pneumoniae

<400> 41

Thr Ser Glu Ser Asn Cys Gly Thr Cys Thr Ser Cys Ala Glu Thr Thr
1 5 10 15
Thr His Trp Lys
20

<210> 42

<211> 11

<212> PRT

<213> Chlamydia pneumoniae

<400> 42

Lys Leu Gly Ser Lys Glu Ser Val Glu Phe Ser
1 5 10

<210> 43

<211> 16

<212> PRT

<213> Chlamydia pneumoniae

<400> 43

Thr Val Tyr Arg Ile Cys Val Thr Asn Arg Gly Ser Ala Glu Asp Thr
1 5 10 15

<210> 44

<211> 11

<212> PRT

<213> Chlamydia pneumoniae

<400> 44

Glu Tyr Ser Ile Ser Val Ser Asn Pro Gly Asp
1 5 10

<210> 45

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 45

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15

10020269-121401

9/31

Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Gln Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Ala Thr Gly Asn Ala Ala
 85 90 95
 Ala Pro Ser Thr
 100

<210> 46
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

10020269.124401

<400> 46
 Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
 1 5 10 15
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Thr Thr Gly Asn Ala Ala
 85 90 95
 Ala Pro Ser Thr
 100

<210> 47
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 47
 Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
 1 5 10 15
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Glu Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe His Met Gly Ala Lys Pro Thr Thr Asp Thr Gly Asn Ser Ala
 85 90 95
 Ala Pro Leu Thr
 100

<400> 48

```
<210> 49
<211> 100
<212> PRT
<213> Chlamydia trachomatis
```

<400> 49

```
<210> 50
<211> 101
<212> PRT
<213> Chlamydia trachomatis
```

<400> 50

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			

11/31

Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Lys Met Gly Glu Ala Leu Ala Gly Ser Thr Gly Asn Thr Thr
 85 90 95
 Ser Thr Leu Ser Lys
 100

<210> 51
 <211> 103
 <212> PRT
 <213> Chlamydia trachomatis

<400> 51
 Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
 1 5 10 15
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Ser Asp Val Ala Ala Gly
 85 90 95
 Leu Gln Asn Asp Pro Thr Ile
 100

<210> 52
 <211> 102
 <212> PRT
 <213> Chlamydia trachomatis

<400> 52
 Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
 1 5 10 15
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Arg Asp Val Ala Gly Leu
 85 90 95
 Glu Lys Asp Pro Val Val
 100

<210> 53
 <211> 97
 <212> PRT
 <213> Chlamydia trachomatis

10020269-121401

12/31

<400> 53

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
 1 5 10 15
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Ala Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Asn Asp Ala Ala Pro Lys
 85 90 95
 Thr

<210> 54

<211> 102

<212> PRT

<213> Chlamydia trachomatis

<400> 54

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
 1 5 10 15
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Glu Pro Thr Thr Ser Asp Thr Ala Gly Leu
 85 90 95
 Ser Asn Asp Pro Thr Thr
 100

<210> 55

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 55

Met Lys Lys Leu Leu Lys Ser Val Ala Val Phe Val Ala Gly Ser Ser
 1 5 10 15
 Ala Ser Ser Leu His Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Leu
 50 55 60
 Tyr Leu Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Gln Phe Glu Met Gly Ala Ala Pro Thr Gly Asp Ala Asp Leu Thr Thr
 85 90 95

10020269-121401

Ala Pro Thr Pro
100

<210> 56
<211> 99
<212> PRT
<213> Chlamydia pneumoniae

<400> 56
Met Lys Lys Leu Leu Lys Ala Val Leu Ala Phe Ala Phe Ala Gly Ser
1 5 10 15
Val Gly Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Ser Asp Ser
20 25 30
Leu Leu Ile Asp Gly Thr Ile Trp Glu Gly Ala Ala Gly Asp Pro Cys
35 40 45
Asp Pro Ala Thr Thr Trp Cys Asp Ala Ile Ser Leu Arg Ala Gly Phe
50 55 60
Tyr Gly Asp Phe Val Tyr Asp Ile Val Leu Lys Val Asp Ala Pro Lys
65 70 75 80
Thr Phe Ser Met Gly Ala Lys Pro Thr Thr Thr Gly Asn Gly Ser Ala
85 90 95
Ala Ala Asn

<210> 57
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 57
Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
1 5 10 15
Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
20 25 30
Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly
35 40 45
Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn
50 55 60
His Ala Thr Val Ser Asp Ser Lys Leu Val Pro Asn Met Ser Leu Asp
65 70 75 80
Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Ala
85 90 95
Gly Ala Arg Ala
100

<210> 58
<211> 65
<212> PRT
<213> Chlamydia trachomatis

<400> 58
Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
1 5 10 15
Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
20 25 30

10020269-121401

Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asn Asn Glu Asn
 50 55 60
 Gln
 65

<210> 59
 <211> 134
 <212> PRT
 <213> Chlamydia trachomatis

<400> 59
 Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn
 50 55 60
 Gln Lys Thr Val Lys Ala Glu Ser Val Pro Asn Met Ser Phe Asp Gln
 65 70 75 80
 Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val Gly
 85 90 95
 Ala Arg Ala Thr Lys Val Ser Asn Gly Thr Phe Val Pro Asn Met Ser
 100 105 110
 Leu Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ala Trp
 115 120 125
 Ser Val Gly Ala Arg Ala
 130

<210> 60
 <211> 99
 <212> PRT
 <213> Chlamydia trachomatis

<400> 60
 Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn
 50 55 60
 Gln Ser Thr Val Lys Thr Asn Ser Val Pro Asn Met Ser Leu Asp Gln
 65 70 75 80
 Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ser Trp Ser Val Gly
 85 90 95
 Ala Arg Ala

<210> 61
 <211> 99

10020269-121401

<212> PRT

<213> Chlamydia trachomatis

<400> 61

Cys	Thr	Ala	Arg	Glu	Asn	Pro	Ala	Tyr	Gly	Arg	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20				25						30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly
		35				40						45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Asp	Asn	Glu	Asn
	50				55					60					
Gln	Ser	Thr	Val	Lys	Lys	Asp	Ala	Val	Pro	Asn	Met	Ser	Phe	Asp	Gln
65				70					75					80	
Ser	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val	Gly
			85					90						95	

Ala Arg Ala

<210> 62

<211> 99

<212> PRT

<213> Chlamydia trachomatis

<400> 62

Leu	Val	Glu	Arg	Thr	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Cys	Ala	Tyr	Thr	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20				25						30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly
		35				40						45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Asp	Gly	Val	Asn
	50				55					60					
Ala	Thr	Lys	Pro	Ala	Ala	Asp	Ser	Ile	Pro	Asn	Val	Gln	Leu	Asn	Gln
65				70					75					80	
Ser	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val	Gly
			85					90						95	

Ala Arg Ala

<210> 63

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 63

Asn	Val	Ala	Arg	Pro	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20				25						30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Thr	Gly	Tyr	Leu	Lys	Gly
		35				40						45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Thr	Lys	Thr	Gln
	50				55					60					

TOH22T 6920200T

Ser Ser Ser Phe Asn Thr Ala Lys Leu Ile Pro Asn Thr Ala Leu Asp
 65 70 75 80
 Gln Ser Val Val Glu Leu Tyr Ile Asn Thr Thr Phe Ala Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
 100

<210> 64
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 64
 Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Gln
 50 55 60
 Ser Ser Gly Phe Asp Thr Ala Asn Ile Val Pro Asn Thr Ala Leu Asn
 65 70 75 80
 Gln Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
 100

<210> 65
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 65
 Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Lys
 50 55 60
 Ser Ser Asp Phe Asn Thr Ala Lys Leu Val Pro Asn Ile Ala Leu Asn
 65 70 75 80
 Arg Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
 100

<210> 66
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 66

10020269-121401

Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Gln
 50 55 60
 Ser Thr Asn Phe Asn Thr Ala Lys Leu Val Pro Asn Thr Ala Leu Asn
 65 70 75 80
 Gln Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
 100

<210> 67
 <211> 96
 <212> PRT
 <213> Chlamydia trachomatis

<400> 67
 Ala Ser Arg Glu Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala Glu
 1 5 10 15
 Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg Phe
 20 25 30
 Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly Asn
 35 40 45
 Ser Ala Ala Phe Asn Leu Val Gly Leu Phe Gly Arg Asp Glu Thr Ala
 50 55 60
 Val Ala Ala Asp Asp Ile Pro Asn Val Ser Leu Ser Gln Ala Val Val
 65 70 75 80
 Glu Leu Tyr Thr Asp Thr Ala Phe Ala Trp Ser Val Gly Ala Arg Ala
 85 90 95

<210> 68
 <211> 100
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 68
 Tyr Thr Thr Ala Val Asp Arg Pro Asn Pro Ala Tyr Asn Lys His Leu
 1 5 10 15
 His Asp Ala Glu Trp Phe Thr Asn Ala Gly Ile Phe Ala Leu Ile Asn
 20 25 30
 Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Asn Gly Ile
 35 40 45
 Arg Lys Gly Asn Ser Thr Ala Phe Asn Leu Val Gly Leu Phe Gly Val
 50 55 60
 Lys Gly Thr Thr Val Asn Ala Asn Glu Leu Pro Asn Val Ser Leu Ser
 65 70 75 80
 Asn Gly Val Val Glu Leu Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
 100

10020269 "121401

<210> 69
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 69
 Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe
 35 40 45
 Pro Leu Asp Leu Lys Ala Gly Thr Asp Gly Val Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 70
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 70
 Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Leu
 35 40 45
 Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 71
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 71
 Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Phe
 35 40 45

10020269 121401

19/31

Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 72
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 72
 Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe
 35 40 45
 Pro Leu Ala Leu Ile Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 73
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

<400> 73
 Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Phe
 35 40 45
 Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 74
 <211> 100
 <212> PRT
 <213> Chlamydia trachomatis

10020269 121401

<400> 74

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Ile Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Phe
 35 40 45
 Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ser Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ser
 100

<210> 75

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 75

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
 35 40 45
 Pro Leu Asn Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
 85 90 95
 Ser Phe Asp Ala
 100

<210> 76

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 76

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
 20 25 30
 Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
 35 40 45
 Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
 85 90 95

10020269-121401

Ser Phe Asp Ala
100

<210> 77

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 77

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
20 25 30
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
35 40 45
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
50 55 60
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
65 70 75 80
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
85 90 95
Ser Phe Asp Ala
100

<210> 78

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 78

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asp Ala
20 25 30
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
35 40 45
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
50 55 60
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
65 70 75 80
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
85 90 95
Ser Phe Asp Ala
100

<210> 79

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 79

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
20 25 30

10020661401

Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe
 35 40 45
 Pro Leu Asn Ile Lys Ala Gly Thr Val Ser Ala Thr Asp Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 80
 <211> 100
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 80

Gly Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Glu Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val
 20 25 30
 Ser Gln Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe
 35 40 45
 Pro Leu Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser
 50 55 60
 Ala Thr Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala
 85 90 95
 Thr Phe Asp Ala
 100

<210> 81
 <211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 81

Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Thr Val Phe Asp
 1 5 10 15
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala
 20 25 30
 Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr
 50 55 60
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu
 65 70 75 80
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 82
 <211> 92
 <212> PRT
 <213> Chlamydia trachomatis

10020269-121401

<400> 82
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Glu Thr Ile Phe Asp
 1 5 10 15
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Thr
 20 25 30
 Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Met Lys Ser Arg Lys Cys Gly Ile Ala Val Gly Thr Thr Ile
 50 55 60
 Val Asp Ala Asp Lys Tyr Ala Ile Thr Val Glu Thr Arg Leu Ile Asp
 65 70 75 80
 Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 83
 <211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 83
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Ala Ile Phe Asp
 1 5 10 15
 Thr Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Thr
 20 25 30
 Gly Thr Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr
 50 55 60
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu
 65 70 75 80
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 84
 <211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 84
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Ala Ile Phe Asp
 1 5 10 15
 Thr Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala
 20 25 30
 Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr
 50 55 60
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu
 65 70 75 80
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 85
 <211> 94
 <212> PRT

10020259.124401

<213> Chlamydia trachomatis

<400> 85

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Thr	Ala	Ile	Phe	Asp
1			5						10					15	
Thr	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Glu	Lys	Ala
			20					25					30		
Asn	Ala	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
	50					55					60				
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
65					70				75						80
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
				85					90						

<210> 86

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 86

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Arg	Leu	Val	Thr	Pro	Val	Val	Asp
1			5						10					15	
Ile	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Cys	Asp	Ser	Lys	Ala
			20					25					30		
Gly	Asn	Thr	Glu	Gly	Gln	Ile	Ser	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
		35					40					45			
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
	50					55					60				
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
65					70				75						80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
				85					90					95	

<210> 87

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 87

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Ile	Leu	Asp
1			5						10					15	
Val	Thr	Thr	Leu	Asn	Arg	Thr	Thr	Ala	Gly	Lys	Gly	Ser	Val	Val	Ser
			20					25					30		
Ala	Gly	Thr	Asp	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
		35					40					45			
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
	50					55					60				
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Ala	Arg
65					70				75						80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
				85					90					95	

<210> 88

10020269-121401

<211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 88
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Leu Ala Lys Pro Val Leu Asp
 1 5 10 15
 Thr Thr Thr Leu Asn Pro Thr Ile Ala Gly Lys Gly Thr Val Val Ser
 20 25 30
 Ser Ala Glu Asn Glu Leu Ala Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr
 50 55 60
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu
 65 70 75 80
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 89
 <211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 89
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Leu Ala Glu Ala Ile Leu Asp
 1 5 10 15
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Lys Gly Thr Val Val Ala
 20 25 30
 Ser Gly Ser Asp Asn Asp Leu Ala Asp Thr Met Gln Ile Val Ser Leu
 35 40 45
 Gln Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly
 50 55 60
 Thr Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg
 65 70 75 80
 Leu Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg
 85 90

<210> 90
 <211> 95
 <212> PRT
 <213> Chlamydia trachomatis

<400> 90
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Leu Ala Glu Ala Val Leu Asp
 1 5 10 15
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Lys Gly Ser Val Val Ala
 20 25 30
 Ser Gly Ser Glu Asn Glu Leu Ala Asp Thr Met Gln Ile Val Ser Leu
 35 40 45
 Gln Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly
 50 55 60
 Thr Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg
 65 70 75 80
 Leu Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90 95

10020269-121401

<210> 91
 <211> 91
 <212> PRT
 <213> Chlamydia trachomatis

<400> 91
 Asp Thr Ile Arg Ile Ala Gln Pro Lys Leu Glu Thr Ser Ile Leu Lys
 1 5 10 15
 Met Thr Thr Trp Asn Pro Thr Ile Ser Gly Ser Gly Ile Asp Val Asp
 20 25 30
 Thr Lys Ile Thr Asp Thr Leu Gln Ile Val Ser Leu Gln Leu Asn Lys
 35 40 45
 Met Lys Ser Arg Lys Ser Cys Leu Ile Ala Ile Gly Thr Thr Ile Val
 50 55 60
 Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu Ile Asp Glu
 65 70 75 80
 Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 92
 <211> 93
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 92
 Asp Asn Ile Arg Ile Ala Gln Pro Lys Leu Pro Thr Ala Val Leu Asn
 1 5 10 15
 Leu Thr Ala Trp Asn Pro Ser Leu Leu Gly Asn Ala Thr Ala Leu Ser
 20 25 30
 Thr Thr Asp Ser Phe Ser Asp Phe Met Gln Ile Val Ser Cys Gln Ile
 35 40 45
 Asn Lys Phe Lys Ser Arg Lys Ala Cys Val Thr Ala Val Ala Thr Leu
 50 55 60
 Ile Val Asp Ala Asp Lys Trp Ser Leu Thr Ala Glu Ala Arg Leu Asn
 65 70 75 80
 Asp Glu Arg Ala Ala His Ser Gly Ala Gln Phe Arg Phe
 85 90

<210> 93
 <211> 17
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 93
 Cys Thr Gly Ser Ala Ala Ala Asn Tyr Thr Thr Ala Val Asp Arg Pro
 1 5 10 15
 Asn

<210> 94
 <211> 18
 <212> PRT
 <213> Chlamydia trachomatis

<400> 94

10020269 124401

Cys Thr Gly Asp Ala Asp Leu Thr Thr Ala Pro Thr Pro Ala Ser Arg
 1 5 10 15
 Glu Asn

<210> 95
 <211> 19
 <212> PRT
 <213> Chlamydia trachomatis

<400> 95
 Cys Thr Thr Ala Thr Gly Asn Ala Ala Ala Pro Ser Thr Cys Thr Ala
 1 5 10 15
 Arg Glu Asn

<210> 96
 <211> 17
 <212> PRT
 <213> Chlamydia psittaci

<400> 96
 Cys Ala Ser Gly Thr Ala Ser Asn Thr Thr Val Ala Ala Asp Arg Ser
 1 5 10 15
 Asn

<210> 97
 <211> 15
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 97
 Cys Phe Gly Val Lys Gly Thr Thr Val Asn Ala Asn Glu Leu Pro
 1 5 10 15

<210> 98
 <211> 15
 <212> PRT
 <213> Chlamydia trachomatis

<400> 98
 Cys Phe Gly Arg Asp Glu Thr Ala Val Ala Ala Asp Asp Ile Pro
 1 5 10 15

<210> 99
 <211> 18
 <212> PRT
 <213> Chlamydia trachomatis

<400> 99
 Cys Phe Gly Asp Asn Glu Asn His Ala Thr Val Ser Asp Ser Lys Leu
 1 5 10 15
 Val Pro

10020269-121401

<210> 100
 <211> 14
 <212> PRT
 <213> Chlamydia psitacii

<400> 100
 Cys Ile Gly Leu Ala Gly Thr Asp Phe Ala Asn Gln Arg Pro
 1 5 10

<210> 101
 <211> 13
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 101
 Cys Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly
 1 5 10

<210> 102
 <211> 13
 <212> PRT
 <213> Chlamydia trachomatis

<400> 102
 Cys Gln Ile Asn Lys Met Lys Ser Arg Phe Ala Cys Gly
 1 5 10

<210> 103
 <211> 13
 <212> PRT
 <213> Chlamydia trachomatis

<400> 103
 Cys Gln Leu Asn Lys Met Lys Ser Arg Lys Ala Cys Gly
 1 5 10

<210> 104
 <211> 13
 <212> PRT
 <213> Chlamydia psitacii

<400> 104
 Cys Gln Ile Asn Lys Phe Lys Ser Arg Phe Ala Cys Gly
 1 5 10

<210> 105
 <211> 6
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 105
 Arg Lys Lys Glu Arg Ser
 1 5

<210> 106

10020269-121401

<211> 10
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 106
 Ser Thr Glu Cys Asn Ser Gln Ser Pro Gln
 1 5 10

<210> 107
 <211> 13
 <212> PRT
 <213> Ebola virus

<400> 107
 Asn Pro Asn Leu His Tyr Trp Thr Thr Gln Asp Glu Gly
 1 5 10

<210> 108
 <211> 22
 <212> PRT
 <213> Ebola virus

<400> 108
 Ser Gly Gln Ser Pro Ala Arg Thr Ser Ser Asp Pro Gly Thr Asn Thr
 1 5 10 15
 Thr Thr Glu Asp His Lys
 20

<210> 109
 <211> 9
 <212> PRT
 <213> Ebola virus

<400> 109
 Thr Gly Gly Arg Arg Thr Arg Arg Glu
 1 5

<210> 110
 <211> 10
 <212> PRT
 <213> Ebola virus

<400> 110
 Arg Asp Arg Phe Lys Arg Thr Ser Phe Phe
 1 5 10

<210> 111
 <211> 12
 <212> PRT
 <213> Ebola virus

<400> 111
 Glu Gln His His Arg Arg Thr Asp Asn Asp Ser Thr
 1 5 10

1002069-1401

<210> 112
 <211> 11
 <212> PRT
 <213> Ebola virus

<400> 112
 Glu Asn Thr Asn Thr Ser Lys Ser Thr Asp Phe
 1 5 10

<210> 113
 <211> 12
 <212> PRT
 <213> Ebola virus

<400> 113
 Tyr Thr Ser Gly Lys Arg Ser Asn Thr Thr Gly Lys
 1 5 10

<210> 114
 <211> 11
 <212> PRT
 <213> Ebola virus

<400> 114
 Thr Thr Thr Ser Pro Gln Asn His Ser Glu Thr
 1 5 10

<210> 115
 <211> 11
 <212> PRT
 <213> Ebola virus

<400> 115
 Pro Asp Gln Gly Asp Asn Asp Asn Trp Trp Thr
 1 5 10

<210> 116
 <211> 12
 <212> PRT
 <213> Ebola virus

<400> 116
 Thr Ile Ser Thr Ser Pro Gln Ser Leu Thr Thr Lys
 1 5 10

<210> 117
 <211> 16
 <212> PRT
 <213> Ebola virus

<400> 117
 Thr Glu Asp Pro Ser Ser Gly Tyr Tyr Ser Thr Thr Ile Arg Tyr Gln
 1 5 10 15

<210> 118

10020200F
 6920200F
 121401

31/31

<211> 15
<212> PRT
<213> Ebola virus

<400> 118
Thr His His Gln Asp Thr Gly Glu Glu Ser Ala Ser Ser Gly Lys
1 5 10 15

10020269.121401